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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/649,713	08/25/2000	Harry T. French	FRENCH 6-2	7110

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HITT GAINES P.C.
P.O. BOX 832570
RICHARDSON, TX 75083

EXAMINER	
HAN, CLEMENCE S	

ART UNIT	PAPER NUMBER
2665	8

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/649,713	FRENCH ET AL.	
	Examiner	Art Unit	
	Clemence Han	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 5/7/04.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-50 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-50 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claim 1–18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leger (US Patent 5,732,286) in view of Hamburger et al. (US Patent 3,586,771).

In regard to claim 1 and 10, Leger teaches a packet transport system having a master device 101, 102 that transmits packets to a slave device 103, comprising: a channel level detector 207 that reads a level of a first-in, first-out (FIFO) buffer 208 of said slave device (Column 8 Line 4-5) and compares said level to a threshold (Column 8 Line 9-12); and an event driven message generator 207 that issues an event driven message when said level reaches said threshold (Column 7 Line 8-10). Leger, however, does not teach issuing an event driven message to said master device. Hamburger teaches issuing an event driven message to said master device (Column 1 Line 59–64). It would have been obvious to one skilled in the art to modify Leger to issue an event driven message to master device as taught by Hamburger in order to achieve better utilization at the master device (Column 1 Line 31–40).

In regard to claim 2 and 11, Leger teaches the event driven message transmitted in band (Column 10 Line 15-17).

In regard to claim 3 and 12, Leger teaches the event driven message transmitted out of band (Column 10 Line 15-17).

In regard to claim 4 and 13, Leger teaches a local interface 104 between said master device 101, 102 and said slave device 103. Leger also teaches sending said event driven message to the transmitting device (Column 7 Line 28-30).

In regard to claim 5 and 14, Leger teaches said threshold as user selectable (Column 8 Line 8-9).

In regard to claim 6 and 15, Leger teaches said level indicates a number of packets remaining in said FIFO buffer (Column 8 Line 4-5), said event driven message indicating to said master device as to when said FIFO buffer may underrun (Column 3 Line 48-51).

In regard to claim 7 and 16, Leger teaches master device transmits additional packets to said slave device based on said event driven message (Column 3 Line 48-51).

In regard to claim 8 and 17, Leger teaches said level indicates a number of packets remaining in said FIFO buffer (Column 8 Line 4-5), said event driven

message indicating to said master device as to when said FIFO buffer may overrun (Column 3 Line 43-46).

In regard to claim 9 and 18, Leger teaches master device suspends transmission of packets to said slave device based on said event driven message (Column 3 Line 43-46).

3. Claim 19-22, 25-29, 32-38 and 41-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leger in view of Hamburger and further in view of Bell, Jr. et al. (US Patent 6,601,105).

In regard to claim 19, 26, 33 and 41, Leger in view of Hamburger teaches a packet transport system having a master device that transmits packets to a slave device, a messaging system for facilitating communications between said master device and said slave device as discussed in the rejection of claim 1. Leger in view of Hamburger, however, does not teach an aggregate level detector that determines storage levels of a plurality of channels associated with said slave device and a periodic message generator that periodically issues to said master device a periodic message indicating said storage levels. Bell, Jr. teaches an aggregate level detector 18 that determines storage levels of a plurality of channels associated with said slave device (Column 4 Line 35-38) and a periodic message generator 18 that periodically issues to said master device a periodic message indicating said storage

levels (Column 3 Line 66-67). It would have been obvious to one skilled in the art to modify Leger in view of Hamburger to have an aggregate level detector and periodic message generator as taught by Bell, Jr. in order to use plurality of buffers more efficiently.

In regard to claim 20, 27, 34, 42 and 43, Leger teaches the event driven message transmitted in band (Column 10 Line 15-17).

In regard to claim 21, 28, 35, 44 and 45, Leger teaches the event driven message transmitted out of band (Column 10 Line 15-17).

In regard to claim 22, 29, 36 and 46, Leger teaches a local interface 104 between said master device 101, 102 and said slave device 103. Leger also teaches sending said event driven message to the transmitting device (Column 7 Line 28-30).

In regard to claim 24, 31, 40 and 50, Hamburger teaches using a periodic message to enable said master device to determine a variation between a first clock associated with said slave device and a second clock associated with said master device (Column 1 Line 41-50).

In regard to claim 25, 32, 37 and 47, Leger teaches master device transmits additional packets to said slave device based on said event driven message (Column 3 Line 48-51).

In regard to claim 38 and 48, Leger teaches master device suspends transmission of packets to said slave device based on said event driven message (Column 3 Line 43-46).

4. Claim 23, 30, 39 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leger in view of Hamburger and Bell, Jr. et al and further in view of Sidhu et al. (US Patent 6,366,959). Leger in view of Hamburger and Bell, Jr. teaches a periodic message generator that periodically issues to said master device a periodic message indicating said storage levels (Bell Jr. Column 3 Line 66-67). Leger in view of Hamburger and Bell, Jr., however, does not teach said periodic message is contained in a single packet. Sidhu teaches a feedback contained in a single packet 178. It would have been obvious to one skilled in the art to modify Leger in view of Hamburger and Bell, Jr. to use a single packet feedback as taught by Sidhu in order to relay the states of buffers more efficiently.

Response to Arguments

5. Applicant's arguments, see page 2–3, filed on May 7, 2004, with respect to the rejection(s)of claim(s) 1–18 under 35 USC § 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of different interpretation of the previously applied references.

The applicant argued that the cited art does not teach "issuing an event driven messages to the master device when a level of a FIFO buffer of the slave device reaches a threshold". Leger teaches the master device 101, 102 controlling the slave device 103 (Column 8 Line 7–9). Leger, however, does not teach the slave device 103 issuing an event driven messages to the master device 101, 102 when a level of a FIFO buffer of the slave device reaches a threshold. Leger teaches the slave device 103 issuing an event driven messages to the external devices when a level of a FIFO buffer of the slave device reaches a threshold (Column 7 Line 25–30). Therefore, the rejections of claims 1–18 under Leger in view of Rajaraman has been withdrawn. The new ground of rejection is made under Leger in view of Hamburger. Hamburger teaches issuing an event driven message to said master device (Column 1 Line 59–64). It would have been obvious to one skilled in the art to modify Leger to issue an event driven message to master device as taught by Hamburger in order to achieve better utilization at the master device (Column 1 Line 31–40).

6. Applicant's arguments, see page 4–6, filed on May 7, 2004, with respect to the rejection(s)of claim(s) 19–50 under 35 USC § 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground(s) of rejection is made in view of different interpretation of the previously applied references.

The applicant argued that the cited art does not teach "issuing an event driven messages to the master device when a level of a FIFO buffer of the slave device reaches a threshold" as recited in the claims 1–18 and the claims 19–50 also include the same limitation. Leger teaches the master device 101, 102 controlling the slave device 103 (Column 8 Line 7–9). Leger, however, does not teach the slave device 103 issuing an event driven messages to the master device 101, 102 when a level of a FIFO buffer of the slave device reaches a threshold. Leger teaches the slave device 103 issuing an event driven messages to the external devices when a level of a FIFO buffer of the slave device reaches a threshold (Column 7 Line 25–30). The new ground of rejection is made under Leger in view of Hamburger. Hamburger teaches issuing an event driven message to said master device (Column 1 Line 59–64). It would have been obvious to one skilled in the art to modify Leger to issue an event driven message to master device as taught by Hamburger in order to achieve better utilization at the master device (Column 1 Line 31–40).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clemence Han whose telephone number is (703) 305-0372. The examiner can normally be reached on Monday-Thursday 7 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 308-6602. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.H.

Clemence Han
Examiner
Art Unit 2665

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600